Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

9. (Currently Amended) A method of performing a binding assay by determining the number of magnetic particles bound to a substrate, the method comprising:

a. immobilizing a layer of molecules to a substrate;

b. providing a number of magnetic particles as labels;

c. performing a reaction using the molecular layer so as to bind at least some of the magnetic particles to the substrate; and,

d. determining the number of magnetic particles bound to the substrate by determining the difference in the resonant frequency of a tuned circuit when the substrate is exposed to a magnetic field generated by a coil and when the substrate is not exposed to the magnetic field generated by the coil wherein the tuned circuit is connected to a phase locked loop comprising a driver which generates a driving signal for driving the tuned circuit, and a phase comparator for determining the phase difference between the driving signal and an output signal obtained from the tuned circuit, ~~the difference in resonant frequency being determined by monitoring the performance of the phase locked loop.~~the phase comparator being adapted to generate a difference signal representative of said phase difference, said difference signal being fed back to said driver so as to cause said driver to drive the tuned circuit to reduce the determined phase difference.

10. (Original) A method according to claim 9, wherein the magnetic particles are bound to a respective number of second molecules and wherein the reaction binds second molecules with the molecular layer so as to bind the magnetic particles to the substrate.

11. (Original) A method according to claim 10, wherein the binding assay is an immunoassay, the molecular layer being an antibody/antigen layer and the second molecules being antigens or antibodies.

12. (Original) A method according to claim 9, wherein the substrate comprises a plastic strip.

13. (Original) A method according to claim 9, wherein the coil is one of a solenoid, a ring coil and a flat coil.